Documentation projet << Déploiement d'une Application sur AKS>>

Ce projet comporte 3 étapes :

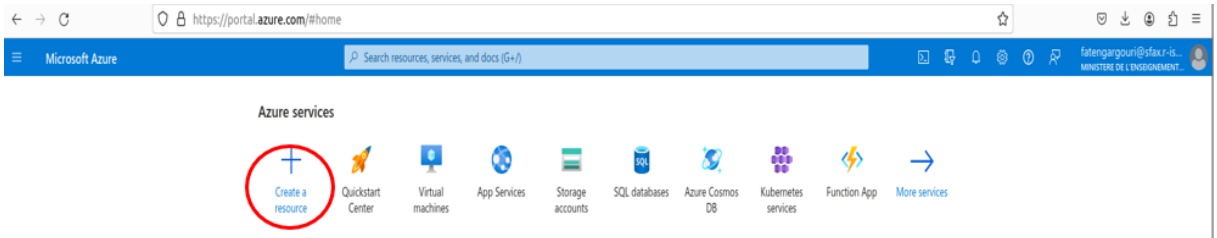
- Configuration et Gestion d'un Cluster AKS dans Azure.

- Publication des images sur Dockerhub

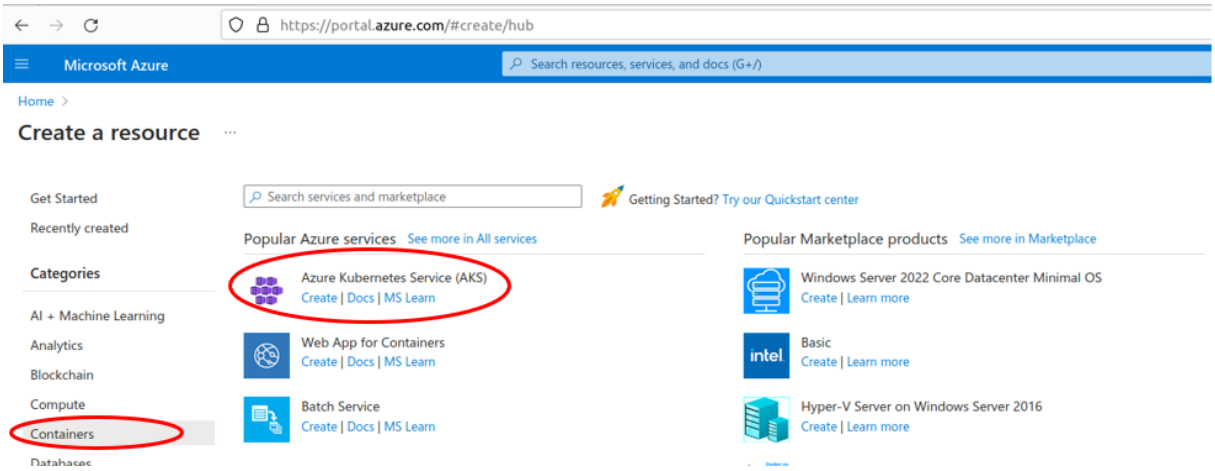
- Déploiement au sein du Cluster Azure Kubernetes Service.

1. Configuration et Gestion d'un Cluster AKS dans Azure.

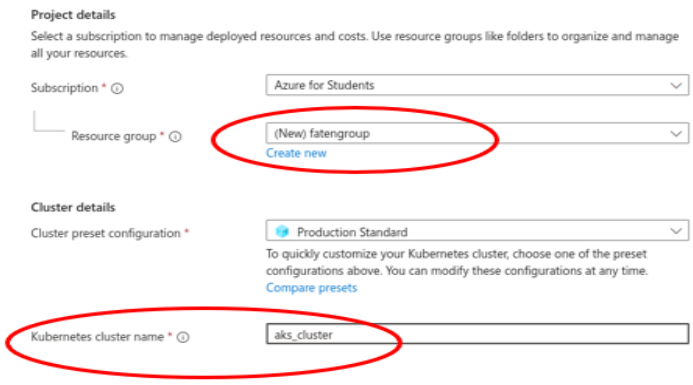
- Se Connecter à Azure
- Cliquer sur Créer une ressource



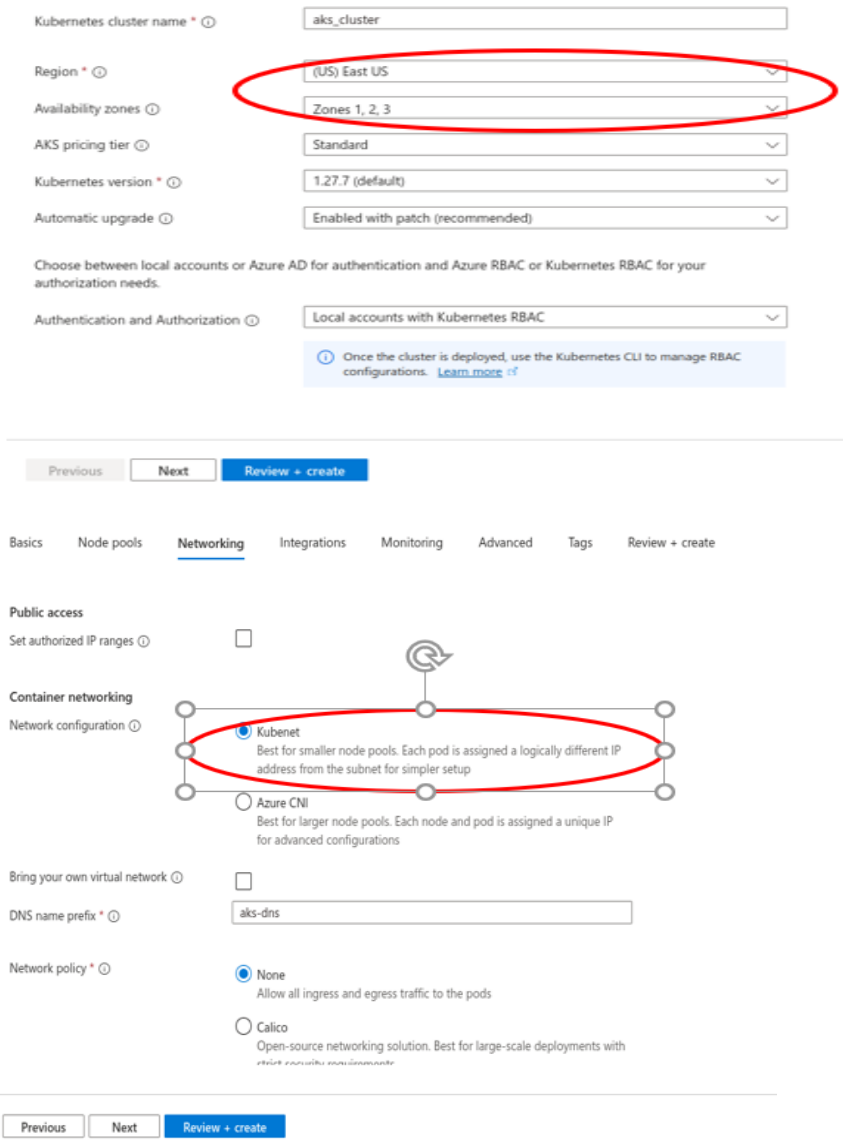
- Choisir Containers et cliquer sur créer azure kubernetes Service



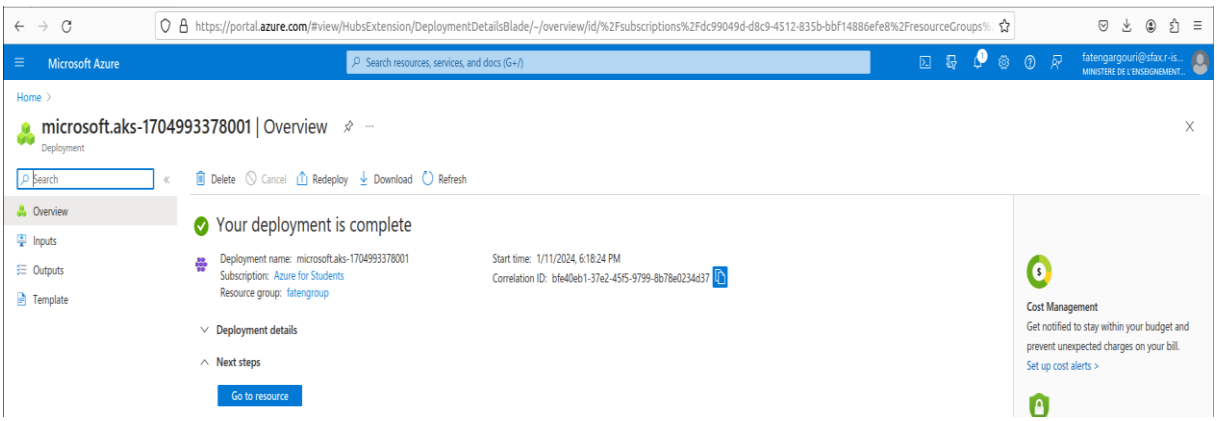
- Créer un ressource groupe et entrer le nom de kubernetes cluster

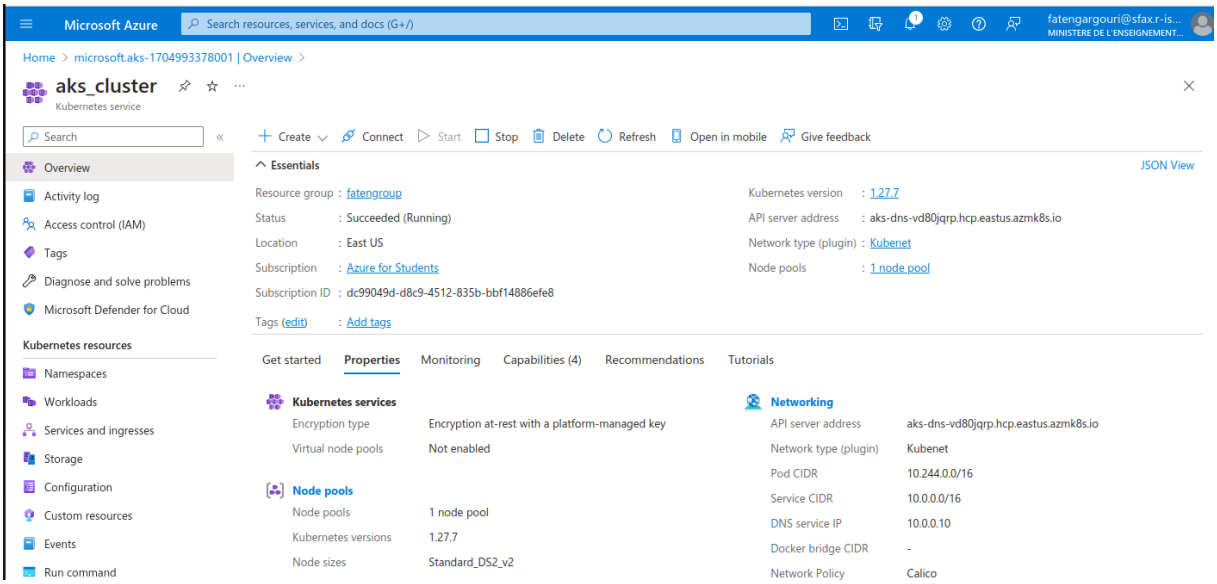


- Déterminer la configuration de kubernetes cluster



- La configuration de cluster est terminé





2. Publication des images sur Dockerhub :

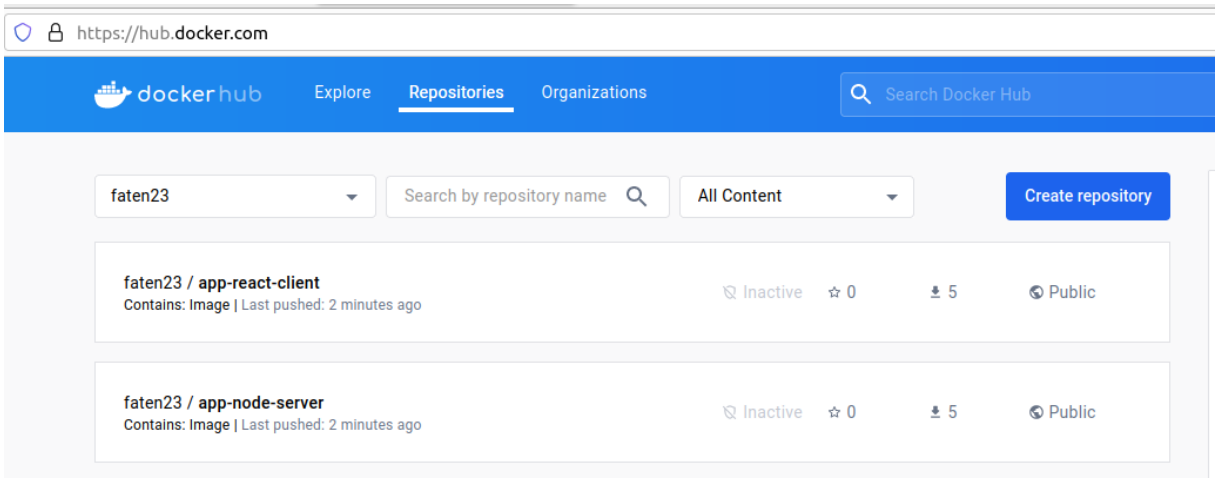
- Créer des fichiers dockerfile et docker compose
- Créer des images docker

```
faten@faten-virtual-machine:~/Bureau/project_cloud/Dockerisation_application$ docker-compose build
mongo uses an image, skipping
Building server
[+] Building 3.3s (12/12) FINISHED                                  docker:default
 => [internal] load .dockerignore                                              0.1s
 => => transferring context: 2B                                                0.0s
 => [internal] load build definition from Dockerfile                           0.1s
 => => transferring dockerfile: 321B                                           0.0s
 => [internal] load metadata for docker.io/library/node:10.16-alpine           2.4s
 => [auth] library/node:pull token for registry-1.docker.io                    0.0s
 => [1/6] FROM docker.io/library/node:10.16-alpine@sha256:77c898d0da5e7bf       0.0s
 => [internal] load build context                                              0.0s
 => => transferring context: 396B                                              0.0s
 => CACHED [2/6] RUN mkdir -p /usr/src/app                                     0.0s
 => CACHED [3/6] WORKDIR /usr/src/app                                          0.0s
 => CACHED [4/6] COPY package*.json ./                                         0.0s
 => CACHED [5/6] RUN npm install --silent                                      0.0s
 => [6/6] COPY . .                                                             0.2s
 => exporting to image                                                         0.1s
 => => exporting layers                                                        0.1s
 => => writing image sha256:ef40e23dc95b00b07776d9d297cf7a58ab653df9ea4ce      0.0s
 => => naming to docker.io/library/app-node-server                             0.0s
Building client
[+] Building 1.3s (10/10) FINISHED                                  docker:default
 => [internal] load .dockerignore                                              0.0s
 => => transferring context: 2B                                                0.0s
 => [internal] load build definition from Dockerfile                           0.0s
 => => transferring dockerfile: 318B                                           0.0s
 => [internal] load metadata for docker.io/library/node:10.16-alpine           0.5s
 => [1/5] FROM docker.io/library/node:10.16-alpine@sha256:77c898d0da5e7bf       0.0s
 => [internal] load build context                                              0.1s
 => => transferring context: 1.86kB                                            0.0s
 => CACHED [2/5] WORKDIR /usr/src/app                                          0.0s
 => CACHED [3/5] COPY package*.json ./                                         0.0s
 => CACHED [4/5] RUN npm install --silent                                      0.0s
 => [5/5] COPY . .                                                             0.4s
 => exporting to image                                                         0.2s
 => => exporting layers                                                        0.1s
 => => writing image sha256:51ad6aef3c47088f09d0f9501ad4dd899feea1f06b8a1      0.0s
 => => naming to docker.io/library/app-react-client                            0.0s
```

- Publier des images sur dockerhub

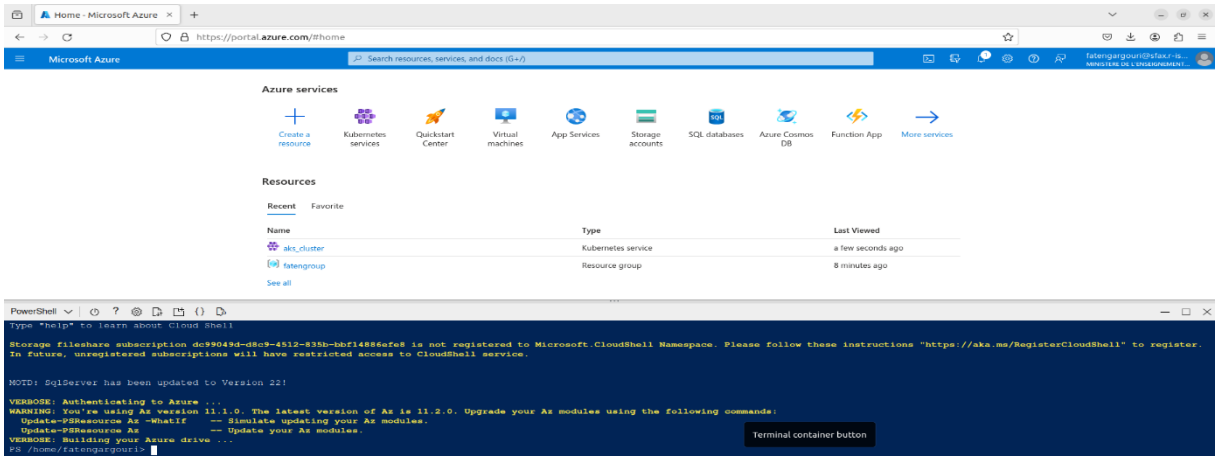
```
faten@faten-virtual-machine:~/Bureau/project_cloud/Dockerisation_application$ docker push faten23/app-node-server
Using default tag: latest
The push refers to repository [docker.io/faten23/app-node-server]
31f1ce9a1949: Layer already exists
858bf0335c4c: Layer already exists
24d280a2f3f1: Layer already exists
5f70bf18a086: Layer already exists
19a7740cafa1: Layer already exists
dd108d5734de: Layer already exists
77306e58a4bd: Layer already exists
a3b85ad42b98: Layer already exists
f1b5933fe4b5: Layer already exists
latest: digest: sha256:41a8f5b114669bf594f1705cef73d733f2868d86c5228894248213d026917d8b size: 2200
faten@faten-virtual-machine:~/Bureau/project_cloud/Dockerisation_application$ docker push faten23/app-react-client
Using default tag: latest
The push refers to repository [docker.io/faten23/app-react-client]
65585fa0138d: Layer already exists
cd14cccc1f11: Layer already exists
c44ae454e22e: Layer already exists
1984fbe1bbe2: Layer already exists
dd108d5734de: Layer already exists
77306e58a4bd: Layer already exists
a3b85ad42b98: Layer already exists
f1b5933fe4b5: Layer already exists
latest: digest: sha256:0e0af4b9819e305c7066055214b4d3e54bdc4ad6dca4efd7b5231d8066797797 size: 1997
```

- Les images sont publiés dans dockerhub



3. Déploiement des images Docker au sein du Cluster Azure Kubernetes Service.

- Ouvrir l'azure cli



- Créer un fichier deployment.yml

```
PS /home/fatengargouri> vi deployment.yaml
```

- Ecrire le contenu de fichier deployment.yml
- Exécuter le fichier deployment.yml : kubectl apply -f deployment.yml
- Afficher les services :

```
PS /home/fatengargouri> kubectl get services
NAME                        TYPE           CLUSTER-IP     EXTERNAL-IP     PORT(S)          AGE
app-node-server-service     LoadBalancer   10.0.117.54    20.253.75.228   80:30389/TCP     40m
app-react-client-service    LoadBalancer   10.0.115.5     20.231.112.80   80:32185/TCP     36m
kubernetes                  ClusterIP      10.0.0.1       <none>          443/TCP          143m
```

- Accéder au site via le navigateur :